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Research Paper

Pooled procurement programme: efficiency and challenges in medicinal health care – perspectives from National Catholic Health Service in Ghana

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Abstract

Objective This article explores the efficiency and the challenges of the pooled procurement programme (PPP) among National Catholic Health Service (NCHS) members using the stakeholder theory.

Method This article used the qualitative research approach relying on a multiple case study design to conduct 20 in-depth interviews with respondents working within the health facilities and the secretariat of the NCHS.

Key findings This article established that the PPP improved accessibility, quality, availability and ensured solidarity between the health facilities within the NCHS. This ensured efficient PPP management in the health facilities. Although a 30% reduction in the average cost of medicines was achieved in the first 3 years of the programme's inception, prompt payment of the National Health Insurance Scheme (NHIS) could further drive down costs of medicines. Notwithstanding, there were other teething challenges such as inadequate consultation between the health facilities and the secretariat, inadequate physical structures, poor internet accessibility and inadequate coverage of the PPP.

Conclusion The article contributes to medicine health services research literature in the context of using the PPP in Ghana in procuring medicines. This article suggests that monitoring and evaluation of the procurement procedures in the health facilities are critical in guaranteeing compliance with the pooled procurement guidelines by participating healthcare providers.

Keywords: pooled procurement; health care; medicines; National Catholic Health Service; Ghana; National Health Insurance Scheme

Introduction

In low-income and middle-income countries (LMICs), medicinal health costs form a substantial share of health expenditure. Medicines, vaccines and supplementary health merchandises form a major factor in health systems by providing essential treatments to people. However, accessibility to essential medicines remained a challenge in LMICs.[1] Also, the focus on patient-centeredness, changes in demography, the introduction of new medicines and exorbitant prices of medicines posed a considerable threat to the health system's financial sustainability globally.[2] To ensure affordable prices and a constant supply of medicines, there are needs for increased collaboration and strategic procurement, within and across organizations and/or nations.

The establishment of pooled procurement, also commonly referred to as cooperative procurement, group procurement, framework agreement and bulk procurement, is one innovative method of sustaining medicines and medical supplies financing. Waning *et al.*[3] defined pooled procurement as procuring medicines in wholesale for many purchasers, to reduce the cost of the medicines and is based on economies of scale. This paper defines pooled procurement programme (PPP) as the pooling of all resources (technical, financial, information) in the interest of all stakeholders to attain the organizational objectives and to meet the customer's expectation by procuring medicines and medical consumables in large volumes to reduce costs, ensure accessibility, solidarity, and improve investment in other productive sectors.

The PPP has two key sources of savings and is associated with enormous advantages often referred to as synergistic benefits. The two main sources of these savings are derived from administrative cost savings and price discounts from suppliers.[4] The benefits comprise reduction of medicine costs through economies of scale, strong negotiation power and/or collective bargaining. The benefits also include nations creating a platform to harmonize medicine registration, serving as a quality assurance instrument, improving services by suppliers and reducing the workload of employees.[5] There are other value-added advantages such as synchronized training on supply administration, regional collaboration and integration, coordinated formulary manual and standard treatment guiding principle, sharing of information and knowledge, transparent and coherent procurement and confidence-building with customers and suppliers.[5, 6]

Summaries of previous research, evidence and lessons learned from Bangladesh, Brazil, Ghana, India and Uganda show that centralized procurement or tendering can achieve efficiency across multiple contexts by generating economies of scale and improved procurement control.[7] Whereas in Australia, Ey *et al.*[8] studied the barriers and challenges of collaborative procurement through face-to-face semi-structured interviews conducted with 17 industry specialists. The paper identified commercial-related barriers (e.g. enabling market entry of competitors, protection of intellectual property, loss of control, a complication of the framework, systems and processes and loss of identity) and human-related challenges (e.g. trust and commitment). Their paper focused on the construction industry without any specific theory, however, they suggested that collaborative procurements would be improved when challenges and barriers were engaged from the initial phase of the project.

In Ghana, the National Catholic Health Service (NCHS) established PPP in 2011/2012 to assist the organization to check and curb counterfeit and substandard medicines from their health facilities. The PPP was also established to ensure health facilities procure their medicines and non-medicine consumables through the programme. Since the establishment of this noble initiative, very few empirical studies have been conducted on the activity of the PPP by the NCHS. For example, Domfeh[9] focused on the role of PPP in the quality improvement of medicines in the NCHS using the agency theory. Also, he evaluated the structures that determine the quality of medicines acquired through PPP in the NCHS using the Donabedian model.[10] This very article builds on the knowledge gained from the above studies and relies on the health facilities selected for those studies. The health facilities are Our Lady of Grace, Breman Asikuma; Holy Family Hospital, Techiman; and St. Francis Xavier, Assin Fosu. However, this article explores the efficiency and the challenges of the PPP among NCHS members using the stakeholder theory.

This article contributes in three ways. First, this article will contribute to the prevailing body of knowledge by serving as a source of reference for scholars and students. Second, through collaboration, procurement processes can be streamlined to bring more efficiency into the procurement practices of employees. Third, this article aims to inform policymakers, to review and regulate procurement processes that guarantee flexibility and efficiency through collaboration.

The remainder of the paper is divided into five parts. The first presents literature and a conceptual overview of the topic under discussion. The methodology is presented next. The fourth section discusses the key findings of this study, while the fifth section comprises the discussion. The conclusion comprises implications of the study to theory, management and agenda for future research are offered in the last section.

Methods

This article used the qualitative research approach relying on a multiple case study design to study the PPP. Anderson *et al.*[11] hold that a multiple case study design allows replication to check developing concepts and classify equivalent or dissimilar characteristics of the phenomenon under study by exploring the contexts to understand the matters under study. Therefore, four cases, three health facilities and the NCHS (i.e. the secretariat) were selected for this research. The cases are Our Lady of Grace, Breman Asikuma, St. Francis Xavier, Assin Fosu, Holy Family Hospital, Techiman, and the NCHS. The cases assisted the investigator to have an in-depth knowledge of the PPP from different perspectives. For example, the secretariat brought clarity to the policy guiding the PPP while the payment delays by National Health Insurance Scheme (NHIS) were a general concern of all stakeholders.

This article adopted a purposive sampling technique because NCHS is the only faith-based organization practicing the PPP in Ghana. Also, the article sampled respondents from NCHS whose obligations and duties were consistent with the PPP were interviewed. Thus, an analytical sampling technique was used to choose and classify the main respondents within the NCHS based on their analytical qualities and knowledge rather than their numerical representativeness.[12, 13] Through snowballing and convenience sampling, respondents were recruited for the study.[8, 13] So a precise consideration was given to the interviewees' understanding and involvement in the PPP. Therefore, the national officers recommended the Municipal- and District-level officers who met the selection criteria. The originators of the PPP, members of the NCHS (i.e. the secretariat) were also interviewed to complement the study. These processes were seen as ideal for the study in the light of the real challenges of accessibility, attaining information, and even making contacts with the top-level managers in NCHS across the health facilities. In situations where administrative red-tapism and respondents are not effortlessly

accessible, it is recommended by several authors that sampling comprises soliciting the assistance of a national officer, in this case, the Director of Health of the NCHS. The Directorate of Health then facilitated to recruit respondents at the NCHS, coordinators and procurement officers were then engaged to aid recruit respondents at the district levels. Saturation was realized when the narratives from the interviewees became repetitive, therefore, sampling ended at the 20th respondent (Table 1, see a summary of the sample).

The sampling frame in this article was limited to NCHS officers responsible for the PPP implementation at the national and district levels. Domfeh[10] evaluated the structures that determine the quality of medicines acquired through PPP in the NCHS using the Donabedian model. This article builds on the knowledge gained by relying on the health facilities used for that study. The health facilities selected were Our Lady of Grace, Breman Asikuma; St. Francis Xavier, Assin Fosu; and Holy Family Hospital, Techiman.

Consequently, in 2019, the primary data were gathered from 20 respondents. It involved in-depth interviews with Chief Executive Officers or Sisters in Charge, pharmacists, procurement officials, storekeepers and health administrators at the health facilities, in addition to some senior officers working at the NCHS. The established effectiveness and ease of administration of interviews were the main reasons for their use as a data collection instrument. The interview guide was not limiting and planned based on the objectives and matters collected from the primary literature review. Interviews were held at the offices of respondents and lasted between 10 and 30 min. Interviews were taped recorded, transcribed by the interviewer and later signed by respondents before analysis.

A thematic content analysis technique was used to analyse the interview data gathered. For applied policy research such as the PPP, a framework analysis is the most suitable for this article. Hence, Pope *et al.*'s[14] five stages of data analysis were used for this article. The stages comprise familiarization, identifying the thematic frameworks, indexing, charting, mapping and interpretation. The data were reorganized according to the relevant portion of the thematic framework in line with the research objectives.[14] Therefore, the analysis started with the immersion into the raw data (i.e. listening to audio recordings, transcribing the audio, reading reports and relevant documents). Then, the thematic frameworks were developed and coded. The charting was subsequently followed by mapping and interpretation. The mapping and interpretation were motivated by the primary research aims as well as the themes that appeared from the data. The concepts that merged from the mapping enabled the researcher to find relations between themes and provide reasons for the findings.

Table 1 Summary table of sample

Level	Designation	Number
NCHS	Coordinator	1
	Procurement Officers	2
Health Facilities	Chief Executive Officer/Sister-in-Charge	1
	Health Service Administrators	2
	Procurement Officer	1
	Accountant	1
	Pharmacists	3
	Finance Officers	2
	Supply Officers	5
	Pharmacy Technician	1
	Store Keeper	1
Total		20

Therefore, the primary data were triangulated with prior literature on pooled procurement policies, evaluation reports and relevant documents.[2, 9, 15] The analysis ensured that inferences were made in the discussion.

Ethical approval for the study was obtained from the Institute of Statistical, Social, and Economic Research (ISSER). The issues reviewed by the Ethics Committee for the Humanities (ECH) covered informed consent processes, anonymity, compensation, confidentiality and full disclosure to study participants. All respondents gave their consent before they were interviewed. The implications and utilization of research findings, possible risks, discomforts and rights of participants were also reviewed. The study was thus covered by Ethical clearance reference numbers ECH 087/18–19. The study was also reviewed by the NCHS and the health facilities which then granted permission to involve its personnel, facilities and programmes in the study.

Results

This section discusses the main findings in line with the objectives of the study which are 2-fold, efficiency and the challenges confronting the implementation of the PPP. Key findings are discussed in themes, respectively.

Efficiency of PPP

Stakeholders expect the PPP to be efficient in reducing the cost through bulk procurement. The interviewer relied on the 2015 annual report of NCHS to enquire about the efficiency of the PPP.
A respondent asserted:

> I can say that PPP, by and large, is a very good innovation or intervention and it has come to stay and over the years facilities have been able to achieve at least 30% in the cost of reduction of medicine and medical consumables and this is very appreciable success and a lot more can be achieved if facilities patronize the program holistically and government for that matter can improve upon payment I believe a lot more can be achieved and a lot of substandard product can be minimized from getting into most of our health facilities which are very key. (R17, Male, Procurement Manager, NCHS)

Another respondent asserted:

> PPP can be improved when there is improvement in the payment of NHIS claims because most of our facility clients are on the NHIS. When there is improvement in the payment of NHIS claims, the PPP will also improve because one of the reasons why we have not been able to drive the discounts further down is because of the delay in the payment to suppliers. (R18, Male, Procurement Manager, NCHS)

To be efficient implies quality products must be purchased by all health facilities to meet the standards established to satisfy stakeholders. Therefore, how the quality of products was tested was inquired from the respondents.
A respondent asserted:

> Before you become eligible to tender for medicines you should have registered with Food and Drugs Authority (FDA) and during the tendering and opening process we have officials from the FDA as part of the panel for evaluation (evaluation panel) and samples of medicines are submitted and tested as part of the tendering processes. And after the award, we have a mini-lab

> that we use to conduct random testing of all medicines that are supplied to all our facilities and the results are forwarded to the FDA. (R3, Male, Senior Coordinator of PPP, NCHS)

Another respondent confirmed the above assertion:

> We procure from accredited pharmaceutical companies and in that way we can vouch for the quality of medicines. Outside that, you might not be able to tell. I might add that if along the line we have any challenges, for example, we have patients complaining about or reporting any adverse effects. What we do is to report it to FDA and they come in for the sample and do their analysis and they give us the feedback. (Female, R17, Pharmacist, and Head of the Department, HF)

To sustain the programme, the NCHS realizes the importance of trust within and between the health facilities, the secretariat and all stakeholders.
A respondent revealed:

> PPP relies on trust and collaboration between us, that is, the secretariat and the facilities so we are forging on collaboration. A centralized contracted pooled procurement is the answer to some of these challenges and there is solidarity in the pooled procurement because a lot of bigger facilities can place larger volumes of orders and pay on time to sustain the interest of the big suppliers in the PPP so that weaker facilities or those with weaker financial muscle can still get their items from the suppliers, so it is a good program that can be pursued in a homogenous organization like the Catholic Health Services. (R3, Male, Senior Coordinator of PPP, NCHS)

Challenges in the PPP

This article found several challenges which stretched from delays in insurance payment, inadequate consultation between the health facilities and the secretariat, inadequate physical structures, poor internet accessibility and inadequate coverage of the PPP.

Delays in the National Health Insurance Scheme payment

Nonetheless, the main challenge that confronted the health facilities was delayed in health insurance claims processing and payments. As aptly captured from a respondent:

> When it comes to the challenges of PPP, delay in reimbursement by the NHIS because the government is always in arrears over a year. Again, some of the facilities owe the suppliers of the program beyond the period the insurance does not owe any of the facilities. (R17, Male, Procurement Management, NCHS)

Inadequate consultation between health facilities and secretariat

Findings showed that health facilities felt distant from the PPP. The health facilities visited reckoned the apparent inadequate communication between the hospitals and the NCHS. The following responses are illustrative:
A respondent revealed:

> I think they have to widen their tender committee so that at least they can add few pharmacists from the local hospitals so they can go there and help them. As for them, they don't know what goes on here. They just determine what we need, it is not helping us. (Male, R9, Senior Supply Officer, HF)

Another respondent confirmed:

> Centralized nature of the pooled is a challenge which doesn't allow for consultation. Sometimes the hostile nature of our institution for the change you need to sit back and observe. The institutional politics makes it difficult to intervene in the procurement practices. (R11, Male, Health Services Administrator, HF)

Inadequate physical structures

Inadequate physical structures of the various health facilities were a major challenge to the NCHS. The old structures of health facilities coupled with the delay in payment stifled the development needed to deliver quality care. The respondents were rather concerned about this state of affairs, as such, one responded that:

> Infrastructure i.e. at the most of facilities, they have been put up years ago so expanding it has become a problem and inadequate storage facility is one. Some of them have inadequate pellets, shelves, models, stores and is a whole challenge for some of them and more government delays their money from coming, the more they may have the challenge to expand their facilities. (R18, Male, Procurement Officer, NCHS)

A respondent pointed out that:

> The proper storage should be done by suppliers but most suppliers don't have delivery vans and medicines should be conveyed at certain temperatures. (R2, Male, Procurement Management, HF)

Another complained about the medium of transportation and storage:

> Transportation of medicines by commercial vehicles, we don't know the storage facilities of suppliers, we need resources to monitor suppliers facilities, the NHIS payment always delay, checking of medicines at the point of dispensing. Poor storage facilities of suppliers. (R6, Female, Sister-in-Charge, HF)

Poor internet accessibility

The poor internet accessibility made reporting and communication with NCHS very difficult. A respondent narrated that:

> Another challenge is, the report that we are supposed to send because of our location it makes internet connection very difficult and reports to be sent to the NCHS are usually sent out of the hospital. Which is not very appropriate. They should help with the internet accessibility. (R11, Male, Supply Officer, HF)

Another respondent reiterated that:

> Again, we have a problem with submission of data, currently the secretariat does not have a system whereby we can determine in real-time the demand and supply between facilities and suppliers and ability to track payment as and when they are due and as and when payment is effected, so we rely on facilities and suppliers alike to send data for the program to appraise itself of what is happening. But most of the time, the data either would not come or would be delayed in being submitted. (R3, Male, Senior Coordinator of PPP, NCHS)

Inadequate coverage of the PPP

The various hospitals revealed that currently the PPP is covering only 70% of medicine procured to the hospitals but it should be extended to 100% coverage. This implicitly means the hospitals realize the modest gain made on the PPP platform. Here are some responses:

> Currently the PPP is covering only 70% but if they can extend the program to about 100%. (R4, Male, Pharmacist, HF)

Meanwhile, a respondent pointed out that:

> The tendency for facilities themselves to go out to procure from the open market instead of procuring from the PPP. (R1, Male, Procurement Officer, HF)

Discussion

The establishment of the PPP was in the interest of all stakeholders. The expectation is that all healthcare workers work in harmony to realize the objectives set by the NCHS. Therefore, all stakeholders were engaged (i.e. clients, health facilities staff, community members, Ghana Catholic Bishop Conference (GCBC), Directorate of Health of the NCHS, regulatory agencies, government, etc.) in instituting the PPP.

The engagement of stakeholders was important for developing and creating an efficient PPP system. This process ensured all members came together to organize resources, improve value, and efficiency in the medicine supply chain.[15] Thus, in 2015, the NCHS reported that there has been a 30% reduction in the cost of medicine in the first 3 years of the programme's commencement. Although this was achieved in the first 3 years of the programme's inception, it was generally believed that when health facilities are paid on time, substantial discounts in medicine and non-medical consumables could be attained. These findings corroborate prior studies on reduced costs in PPP. For example, both Seidman and Atun[1] and Millington and Bhardwaj[7] in their systemic reviews affirmed that centralized pooled procurement and competitive tendering ensure efficiency. While, Karjalainen[16] asserts that in a pooling organization, the number of pooling entities must not be high before economies of scale are achieved.

To ensure that the NCHS's clients get the quality of medicines needed, all suppliers had to be registered with the FDA and had the Pharmacy Council (PC) certificates.[10] The suppliers were also subjected to the annual renewal of their licenses to be able to supply the various health facilities of the NCHS. Also, the NCHS tested samples of medicines in their mini-labs while the FDA gives confirmatory tests when there was suspicion of substandard medicines.[10] The measures put in place by the NCHS provided health facilities with the quality medicines needed. The partnership between the regulatory agencies and the NCHS brought efficient checks and balances that guaranteed the quality, safety and efficiency of medicines.

Also, human-related challenges such as trust and commitment were revealed to be essential elements in the pooling mechanism. To ensure efficient PPP, trust and commitment between NCHS (i.e. the secretariat) and the health facilities were important for the programme's survival. This finding is validated by Katusiime[17] that elements that thwart the efficient functioning of pooled procurement activities were cultural factors, failure of teamwork and lack of trust. This area needs some level of consideration from all stakeholders; however, through training, monitoring and supervision, this gap could be bridged.

Also, smaller health facilities benefited from joining the association by conserving some valuable resources and channelling them to other areas of the health system. Therefore, through solidarity within the PPP mechanism, some health facilities with weaker financial muscles were able to acquire the medicines needed. It could be inferred that through the pooling mechanism the costs of medicines were reduced substantially through cooperative negotiation and procurement. This finding corroborates with a previous study by Barbosa and Fiuza[18] that recognized that buyers with a good reputation when joined by buyers with a bad reputation could have their prices of medicines increased. Also, it is indicative that some suppliers were threatening to withdraw their services from the PPP.

Even though, the PPP improved accessibility, quality, availability, and ensured solidarity between the health facilities within the NCHS. There were other teething challenges such as delays in insurance payment, inadequate consultation between the health facilities and the secretariat, inadequate physical structures, poor internet accessibility and inadequate coverage of the PPP.

However, the major challenge confronting health facilities was the delays in insurance payments. The delays in the NHIS payments resulted in stock-outs in some health facilities and some suppliers threatened to pull out of the PPP. This finding is also adequately addressed by the literature review. For instance, Gallien *et al.*[19] asserted that irregularity of fund outflows leads to a considerable elementary stock out in record in African countries. Generally, it was recognized that when insurance payments are made promptly by the National Health Insurance Authority (NHIA), the average cost of medicines could even be lower than previously experienced.

The NCHS conducted its activities to maximize the objectives for all stakeholders. The majority of stakeholder-linked research suggests that 'organizational responsibility towards the stakeholder', is openly aligned with the normative core of stakeholder theory.[6] The establishment of the pooled mechanism has guaranteed a modest achievement and maximized efficiency for the NCHS.The stakeholders' theory advance that stakeholders anticipate that the health facilities conduct their processes of procuring quality and safe medicines through a cooperative environment permissible to drive down costs and guarantee efficiency.

The PPP serves the needs of stakeholders by guaranteeing that their expectations are realized. Therefore, the stakeholder theory is the most suitable theory for this article. The objective of every stakeholder is of intrinsic value. The engagement of all stakeholders in the Catholic Health Services to collaborate and come together under one umbrella body of the NCHS was important in improving finances to optimize value and efficiency in the PPP. The concept of instituting a PPP has this theory in alignment since the intrinsic value of stakeholders is the motivation for them to be part of the PPP. The theory validates stakeholders' legitimate interests in the functional features of the PPP.

Applicability of the stakeholder theory

The GCBC authorized the establishment of a policy and strategies consistent with the objective of the NCHS. The objectives were to prevent sub-standard and reduce the cost at which medicines and non-medical consumables are acquired for the health facilities. The stakeholders' theory is appropriate here since stakeholders are needed to implement such a noble enterprise of the PPP. To manage and integrate the relationships, the general interests of all stakeholders, that is, employees, suppliers, communities and FDA must be engaged to sustain the PPP. It should also include the cooperation of

the Civil Society Groups, PC, the government, customers and other groups in a manner that promises a lasting success of the PPP for all stakeholders.

Thus, the crux of the PPP is about collaborating with various countries, health facilities, organizations or entities (for instance, faith-based organizations), finances and members to optimize value and effectiveness in the PPP. Stakeholders must build solidarity and confidence to constantly advance procedures and systems in a harmonized and transparent means.

Conclusion

This article contributes and advances the strand of the stakeholders' literature in the context of the PPP of medical products in the health sector. This article explored the efficiency and the challenges of the PPP. This article established that the PPP improved accessibility, quality, availability and ensured solidarity between the health facilities within the NCHS. Even though a 30% reduction in the average cost of medicines was achieved in the first 3 years of the programme's inception, prompt payment of the NHIS could further drive down costs of medicines.

Notwithstanding, there were other teething challenges such as inadequate consultation between the health facilities and the secretariat, inadequate physical structures, poor internet accessibility and inadequate coverage of the PPP

Implications for research and practice

To management, the article suggests that monitoring and evaluation of the procurement procedures in the health facilities are critical in guaranteeing compliance with the pooled procurement guidelines by participating healthcare providers. As some health facilities renege on paying their suppliers on time, improve communication, and ensure adequate consultation required by all stakeholders. The outcomes of the monitoring and assessment could serve as an indicator of restructuring the implementation of the innovative procurement practice.

Concerning research, this article explored one of the key procurement strategies used in the procurement of medicines in developing countries and the dynamics in the process. This article further focuses beyond the regional or more heterogeneous organization[20, 21] and zooms in on a homogenous organization such as NCHS. However, considering the fact this article explored the efficiency and the challenges of the PPP from the lenses of the stakeholder theory, future research is directed at scrutinizing the enablers and barriers on suppliers in the PPP. That will ensure that suppliers' competencies are adequately acknowledged by procurement agencies and policymakers.

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Conflict of Interest

None declared.

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